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FIRST GRADE.

ELSIE AMY WYGANT.

OUTLINE FOR MAY AND JUNE.

Science.—Trees: Identification, and weekly painted records of growth of willow, oak, maple, elm, ash, ash-leaf maple. Compare this year's growth of twigs of willow, oak, and elm. Notice bud coverings—scaly, naked, woolly, sticky; unfolding of buds; arrangement of buds on the twig. What do trees need? (light, heat, moisture). What provision is made for getting these necessities? Tree stories: "Philemon and Baucis," "The Poplar Tree," "A Fairy Story," from *Nature Myths and Stories*, by Flora J. Cooke.

History.—Making the furniture for the playhouse: This will require some knowledge of the woods used for furniture. Each child will be given one kind of wood to cut into longitudinal, cross, and quarter sections. Each one will polish the three sections. Then the group will compare these woods as to hardness, beauty of grain, adaptability to polish, etc. The children will take homesamples in order to identify the woods used in furniture there. Each child will choose one kind to make into a piece of furniture for his playhouse. If a hard wood is chosen, the article to be made of it will have to be very simple, as, for example, an oblong block for a window seat. The most of the furniture will be made from quarter-inch poplar. Because of the limited time in the manual-training room, some pieces will be made of wire and raffia, others of cardboard.

Visits to a saw-mill, a chair factory, and Tobey's furniture house will be made to see furniture in various stages of completion.

Geography.—The garden will be the center of study. In its care, the life found will be noted and the best conditions possible made for the study of those forms which prove most interesting. Earthworms, ants, June bugs, and beetles are possible subjects of study. For the study of earthworms the following contrivance has been arranged: The earthworms will be put into a section of soil, 2 inches thick, 18 inches wide, and 22 inches high. This section of soil is inclosed in a frame, formed of two pieces of glass 18 × 22 inches, and two pieces of wood 22 inches long and 2 inches wide. The top will be covered with wire-netting and the whole placed in a pan partly filled with water. A black cloth will be kept over the pan except during times of observation. This keeps it dark, so that the earthworms work against the glass as if underground.

The ants will be kept in soil placed on a zinc-covered tray 11 inches square, which is surrounded by a zinc moat, filled with water. A glass is placed on top of the tray.

A trip will be made to a swamp to collect snails, crawfish, tadpoles, and typical plant life; we shall try to arrange the best possible conditions for

the observation of the life-habits of these animals. Also a trip to the lake-shore to collect typical material. Compare life in these three areas and note problem of adaptation of life to environment so far as interest of the children permits.

Number.—We shall make a reading book during May. This is to hold the reading slips used during the year. These slips are printed on paper $8\frac{1}{2} \times 5\frac{3}{4}$ inches. The book covers will be made of colored cardboard $6\frac{3}{8} \times 8\frac{3}{4}$ inches, and the edges bound in black *passe-partout* paper. The covers are fastened together with a strip of binding cloth $8\frac{3}{4} \times 1\frac{1}{2}$ inches. Stubs of tough gummed paper, $8\frac{3}{4} \times 1$ inch, will be bound into the book for the pasting of reading lessons as fast as they are used. One sheet, $8\frac{1}{2}$ inches long and $12\frac{3}{4}$ inches wide, is folded in half and placed under the stubs. This serves as end sheets to fold back as lining for the covers.

The linear measurements required in making this book cover all uses of the inch and the fractions of an inch taught during the year. Tests of the accuracy of the children's knowledge will thus be made, and drill will be given to clear any points which are indefinite.

During June this work will be in the hands of two members of the training class, who will give work to test the children's knowledge of other mathematical processes used during the year, and who will also give drill here when necessary. It is to be noted that these tests will be made by giving the children actual work and such as is worth doing, as in the case of linear measure in connection with the making of the book.

REVIEW FOR MARCH.

Geography.—The work on transportation planned for March and April is little more than started. So far we have followed the outline in the March number of the *ELEMENTARY SCHOOL TEACHER*, p. 532, first considering how the various commodities of the household are brought to our door in carts and wagons adapted to their various purposes. Our outlook was broadened by a visit to the Field Museum, which brought to the children's attention, not only a variety of primitive means of transportation, but also conveyances adapted to a great diversity of uses and to widely differing conditions.

The necessity of bringing many articles from beyond our immediate neighborhood centered the work upon railroads. Soon after Christmas one of the children asked to make a train of cars in the manual-training room. This request was enthusiastically seconded by several others. At the time the children were at work on another thing, and could not undertake any more, but now, in connection with transportation, the opportunity is given for making a train. Each car is to be 5×17 inches, the height varying with different kinds of cars. The wheels of the train are to be of lead, and made as nearly as possible by the usual process of casting. The actual work will be done by

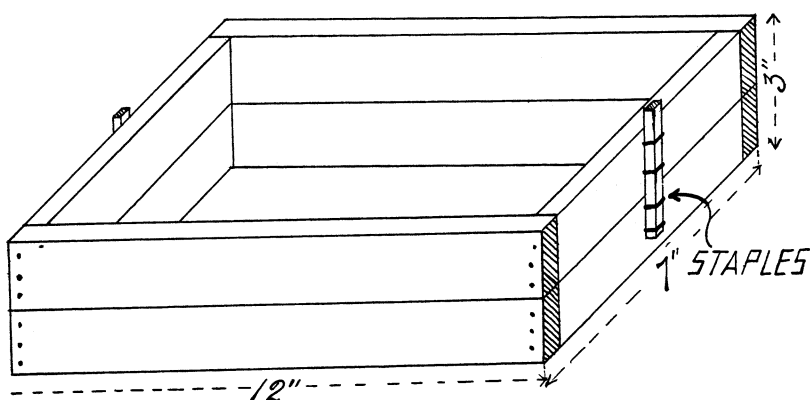
a member of the professional training class, Miss Helen Putnam, whose plan in detail is given below.

TEACHING PLAN FOR MOLDING CAR WHEELS.

1. Introduce subject of molding by showing imprints of objects in clay; then by making casts with plaster in imprints; finally by making mold and cast in plaster, using wooden pattern.

2. Visit car shops; notice shapes of wheels and methods of casting metal.

3. Plan pattern to be used, and write order to turner for number desired. Directions: Use wood $\frac{1}{2}$ inch thick; make four side pieces 12 inches long and $\frac{1}{2}$ inch wide; make four end-pieces 6 inches long and $\frac{1}{2}$ inch wide,



WORKING DRAWING OF FLASK.

two for upper and two for lower part of flask; nail side pieces to end pieces with brads; drive two staples into each end of upper and lower parts of flask (see illustration); cut pegs to fit staples; put pegs through staples to hold the two parts of flask even.

4. Plan manner of casting, including making of flask and melting of metal.

5. Make flask.

6. Make mold, packing sand, dusting with flour, and making in holes.

7. Melt lead and pour.

8. Shake out and knock off risers.

Reading lessons.—HOW WE MOLDED OUR CAR WHEELS.

I.

We had wooden patterns of wheels.

We had wooden flasks.

The flasks were in two parts.

We had molding sand and white sand.
The molding sand was moist.
The white sand was dry.

II.

We packed molding sand into the lower part of the flasks.
We pushed the patterns into the sand.
We pushed them in up to the rim.
We smoothed off the molding sand and dusted it with white sand.

III.

We put on the upper part of the flask.
We made it fast with pegs.
We packed molding sand into the upper part.
We smoothed the sand off.
We opened the flask and took out the pattern.
The pattern left a mold in the sand.

IV.

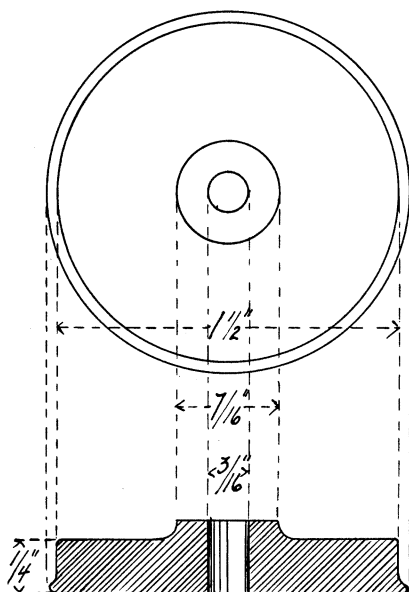
We dusted the mold with flour.
The flour kept the mold from sticking.
We made a hole down through the sand.
This was to pour the lead through into the mold.
We made air holes with a hat pin.
Then we put the flask together and made it fast with the pegs.

V.

We melted the lead.
We poured the melted lead into the mold.
We let it cool.

When it was partly cool we shook out the flask.
We knocked the risers off the wheels.
The wheels were done.

Outer Face.



Cross Section.

WORKING DRAWING OF CAR WHEEL.

Writing lesson : Order to pattern-maker for eight turned patterns.

"Please send me eight patterns made like this."

(Inclose working drawing with measurements indicated.)

Number work in making car wheels: Count wheels on car; measure diameter of them; given scale of model of car, find diameter of small wheels; draw plan of wheels at given scale, for pattern-maker; find size of flask needed for molding eight wheels at once; make flask according to measurements; weigh lump of lead; calculate approximately amount to be melted for eight wheels.

History.—Following the dominant interest of the children, the method of work in making floor coverings has been somewhat altered. According to the plan in the March number each child was to shear the wool from a part of a sheepskin and spin, dye, and weave the wool into a rug.

In analyzing the process with the children, in order to have them see the necessary steps in the making of a rug, attention was first directed to the weaving. It was expected that thus they could more easily trace back the process. Most of the children had had some experience with weaving in the kindergarten, and so great was their desire to begin at once the actual weaving that it seemed somewhat forced to insist upon the process of the preparation of the wool at this time. Therefore we started immediately to weave matting for the bedroom of the playhouse. On our looms we strung the warp of cotton twine and upon this wove raffia as a filling. As soon as this was well started, the children continued the weaving independently, and the work on the woolen rug has been resumed. A review of this work will appear in June.

Science.—Because the work on food was not completed in February, the study of grains as food was carried into March.

We examined several breakfast foods to discover how and of what they are made. We found that in every case some change had been made in the grain after it was harvested. The method of raising, gathering, and threshing the grain was discussed and illustrated with large blackboard pictures and in sand pans. We made several attempts to see the milling done, but were prevented. We tried to grind some corn on stones and some in an Indian stone mill. We hoped to make corn meal fine enough to use for cooking. But we compared that which we had ground with some ground in a modern mill, and decided to use the commercial article.

Home economics.—We used the corn meal to make southern "hoe cake." The quantity of material used in the following recipe makes enough for two layer cake tins spread very thin.

HOE CAKE.

- 1 cup corn meal.
- 1 teaspoonful of sugar.
- 1 saltspoonful of salt.
- Butter the size of an egg.
- 1½ cups of boiling water.

During one of our cooking lessons we made ice cream. This proved very successful, because the recipe was simple enough to be easily held in mind, the entire process within the independent grasp of each child, and the result eminently satisfactory. Each child made enough either of chocolate or vanilla ice cream for himself and one other.

ICE CREAM.

- 1 cup of cream.
- ¼ cup of sugar.
- ½ tablespoonful of chocolate, or ½ teaspoonful of vanilla.
- Beat until the mixture is foamy.
- We put the mixture into small tin pails.
- We put the tin pails into large bowls of salt and ice.
- We used three times as much ice as salt.

We opened the pails occasionally to mix the frozen and the unfrozen cream.

The freezing occupied about fifteen minutes.

SECOND GRADE.

CLARA ISABEL MITCHELL.

OUTLINE FOR MAY AND JUNE.

THE basis of all the work in second grade for May and June is (1) social occupations, (2) field excursions, (3) games and entertainments.

1. *Occupations*.—(a) Gardening, (b) wood-working, (c) clay-modeling, (d) weaving.

(a) Gardening: Planting of pop-corn for winter use; lettuce, radishes, onions, and parsley for luncheons; all these in the garden spot allotted to the second grade. In the flower beds will be planted sweet alyssum, phlox, corn-flower, salvia, callendulum, and castor-bean; sunflowers, geranium, moon-vines, wild cucumber, and gourds will be planted for the arbor.

(b) Wood-working: Cup-racks to be given to the different classes of the school for hanging individual cups. Poplar boards of various sizes and proportions, finished with molding, stained, and with brass hooks for the cups.

(c) Clay-modeling: Tiles 5×5 inches, to be used as decorations for window-boxes in the new school. The budding twigs, spring flowers, and germinating plants studied and modeled as subjects for the tiles.

(d) Weaving: May baskets of jute cord, wound and sewed with raffia; book-bags of seine twine.

2. *Field excursions*.—Visits to parks, the swamp at Seventy-ninth street, the lakeshore, the woods at Beverly Hills, and, if possible, the sand dunes.

3. *Games and entertainments*.—Class drills and games in the gymnasium and out-of-doors; daily exercise in rhythmic step to musical accompaniment; preparation of two twenty-minute programs for the meeting of the entire school at the morning exercise; preparation of a part of the program for a spring festival.

Correlated with the activities that are the basis of the two months' work will be:

1. *Nature study*.—Observation and records of germination and growth of garden plants; similar records in writing, clay-modeling, painting, or drawing of changes in pond-life; familiar plants of the prairies; budding and blossoming of the trees; birds and insects as they appear in their seasons; changes in color of landscape and corresponding changes in temperature.